

WASHINGTON STATE DEPARTMENT OF TRANSPORTATION

EASTSIDE CORRIDOR PROJECT

SECOND LEVEL SCREENING ANALYSIS

DRAFT FINAL REPORT

REVISED AUGUST 3, 2001



*URS Corporation
And
INCA Engineers, Inc.*

**TABLE OF CONTENTS FOR
SECOND LEVEL SCREENING ANALYSIS
DRAFT FINAL REPORT**

EXECUTIVE SUMMARY	Page 1
INTRODUCTION	Page 3
FUTURE NORTH/SOUTH CORRIDIOR CAPACITY NEEDS	Page 3
OVERVIEW OF SCREENING ANALYSIS PROCESS	Page 6
CONCEPTUAL ALTERNATIVES CONSIDERED IN SECOND LEVEL SCREEENING ANALYSIS	Page 8
RIVER OR WESTERN ROUTES	Page 8
LOWER BENCH	Page 8
ONE-WAY COUPLETS	Page 10
IMPROVEMENTS TO EXISTING SUNSET HIGHWAY	Page 10
IMPROVEMENTS AND EXTENSIONS TO LOCAL STREETS	Page 11
SECOND LEVEL SCREENING CRITERIA AND CONCEPTUAL ALTERNATIVE SCORING	Page 12
TRANSPORTATION	Page 12
COMMUNITY / LAND USE	Page 15
ENVIRONMENTAL	Page 18
ENGINEERING FEASIBILITY	Page 21
RESULTS, CONCLUSIONS AND RECOMMENDATIONS	Page 25

EXECUTIVE SUMMARY

The purpose of the Eastside Corridor effort is to identify a transportation alternative that will enhance safety and increase mobility, including the movement of people, goods, and services on the Sunset Highway Corridor (SR 28) in the East Wenatchee urban area from 9th Street to the Odabashian Bridge. Any proposal must meet the needs of the community, and comply with all Federal and State environmental laws. The Washington State Department of Transportation (WSDOT) has contracted with URS Corporation (URS) and their subconsultants (the project team), to develop an Environmental Impact Statement (EIS), which would assess the environmental impacts of a range of transportation alternatives and ultimately identify a preferred alternative.

A screening analysis, which was carried out in two stages was used by the project team to select the alternatives for detailed assessment in the EIS. The initial screening analysis involved brainstorming conceptual alternatives within the East Wenatchee urban area, and the creation of rating criteria with input from WSDOT, the interdisciplinary team (IDT), and the community. The conceptual alternatives were then rated against the screening criteria and the most promising alternatives were selected for further engineering consideration and analysis. A total of 16 conceptual alternatives were selected and carried through to the second stage of the screening process. These alternatives were grouped into the following five categories:

- Two conceptual alternatives located between Sunset Highway and the Columbia River (the River or Western Routes).
- Six conceptual alternatives located on the lower bench.
- Two conceptual alternatives which are one-way couplets on existing streets.
- Two conceptual alternatives involving improvements to the existing Sunset Highway.
- Four conceptual alternatives involving local street widening and extensions to SR 2/Odabashian Bridge.

The second stage of the screening process involved more focussed analysis and discussion in order to develop more detailed screening criteria and determine the weight to be applied to each criterion. Development of the detailed screening criteria involved expanding the criteria, which had been used in the initial screening analysis, and incorporating feedback received from the community. It was determined that there were four major categories that the criteria would fall under; Transportation, Community/Land Use, Environmental and Engineering Feasibility. It was also determined that each of the four major categories was of equal importance and would receive equal weighting. Each of the 16 conceptual alternatives carried through from the initial screening analysis was then rated according to the second level screening criteria.

The second level screening was completed and the results were presented to the interdisciplinary team, the citizens advisory committee, and to the public at an open house. Based on the results of the second level screening analysis, and input received from the IDT and the community the project team recommends the following conceptual alternatives be studied in detail in the EIS:

- 1f Western Route 300' from OHWM, Parkway.
- 4a One-Way Couplet – Sunset Highway/ Cascade Avenue
- 5i Sunset Highway Four Lane Freeway.
- 6d Cascade Avenue Improvements and Widening.

It is important to note that the above recommendation was made based on preliminary environmental information, traffic data and engineering considerations. While this level of information is appropriate for carrying out a screening analysis of conceptual alternatives, the project team recognizes that additional environmental or design information may arise as a result of the detailed environmental studies and design work which will be carried out as part of the EIS process. Further evaluation of the recommended alternatives may warrant adjusting the original conceptual alignment of an alternative. Additionally, elements of some of the alternatives discounted during the second level screening process may be incorporated in order to overcome environmental or design constraints, and avoid potential impact issues.

INTRODUCTION

The purpose of the Eastside Corridor effort is to identify a transportation alternative that will enhance safety and increase mobility, including the movement of people, goods, and services on the Sunset Highway Corridor (SR 28) in the East Wenatchee urban area from 9th Street to the Odabashian Bridge. Any proposal must meet the needs of the community, and comply with all Federal and State environmental laws. The Washington State Department of Transportation (WSDOT) has contracted with URS Corporation (URS) and their subconsultants (the project team), to develop an Environmental Impact Statement (EIS), which would assess the environmental impacts of a range of transportation alternatives and ultimately identify a preferred alternative.

An EIS for the SR 28 corridor was prepared by WSDOT in the mid-1980s. Each of the alternatives presented in the 1980s EIS were analyzed in the initial part of the process of selecting alternatives to be assessed in the current EIS. As detailed in the *Eastside Corridor Project Final Initial Screening Analysis Report*, two of the original alternatives (Previous EIS Routes 3 and 5) were carried through to this second level screening analysis.

FUTURE NORTH/ SOUTH CORRIDOR CAPACITY NEEDS

The alternatives being considered in the Eastside Corridor effort must accommodate traffic capacity needs in the build year, assumed to be 2006, and 20 years into the future, or on into the year 2025. The qualitative evaluation of the different alternatives is based upon traffic models previously undertaken and engineering judgment obtained from experience with similar types of facilities.

In 1997, a study was prepared which assessed the regional transportation needs of the Wenatchee Urban Area. The study known as WATS (Wenatchee Area Transportation Study), originally assessed the capacity needs up to the year 2010. The traffic model developed for WATS was later extrapolated to 2017 at the request of Douglas County. The extrapolation of the volume forecast predicted that by 2017 there would be demand for about 2500 vehicles traveling in the corridor in each direction. It is anticipated that the volume forecasts for 2025 that will be determined during the EIS process will be similar or higher.

The design and type of access control that is used on a roadway has an effect on the capacity of the roadway. Access control refers to the number and kind of access points that are found on the roadway. Different kinds of access points include driveways, intersections (signalized and unsignalized), and interchanges. Fewer access points result in fewer potential conflict points and increased capacity. More access points create more potential conflict points requiring the driver's attention and decreased capacity.

Capacity is determined by methodology defined in the Highway Capacity Manual, 2000, published by the Transportation Research Board of the National Research Council. In addition to access control, factors that can affect capacity include lane width, grade, shoulder width, interchange or intersection spacing, traffic stream composition, parking, bus operations, turning movements, signal timing, pedestrian and bicycle use, and weather. These factors were taken into consideration when determining the expected available capacity for the alternatives.

The kind of access control and the resulting expected capacity used for roadways varies by facility type. The following assumptions were used for the screening alternatives:

- ***Full Control Limited Access Facility – Freeway.*** For a freeway, full control of access is established. This means that access to the freeway is limited to interchanges only. This kind of a facility has no driveways or road approaches. No pedestrians are allowed, and there is no parking. Typical capacity ranges between 2250 and 2400 vehicles per hour per lane based upon Chapter 23 of the Highway Capacity Manual. However, for the specific case of the Eastside Corridor, a relatively short stretch of freeway with an access point and minimal driver experience with freeways a likely capacity range would be 1800 to 2200 vehicles per hour.
- ***Managed Access Control Facility – Parkway or New Principal Arterial.*** For a parkway or newly constructed principal arterial, managed access control will be used in this study. Managed access control for a parkway or principal arterial means that access will be allowed only at intersections. Pedestrian facilities will be provided adjacent to the roadway, and parking is not allowed. Capacity is controlled mainly by the intersections. Typically, the factor with the most significant impact is available green time (how long a traffic signal shows green) for each traffic movement. The ideal saturation flow rate is 1900 vehicles per hour per lane based upon Chapter 16 of the Highway Capacity Manual. Because the cross traffic or turning movements are expected to take one-half of the green time, the available capacity is reduced by one-half, or to approximately 950 vehicles per hour per lane.
- ***No Access Control Designation – Existing Principal Arterial or Rural Arterial.*** For existing principal arterials or new or existing rural arterials, no formal access control designation will be used for the roadway. Roadway approaches for driveways or other access roads will be permitted for existing access points or new accesses as requested and approved. New access points will be granted based on engineering safety criteria such as sight distance and stopping distance. Capacity would be similar to that described for Managed Access Control Facilities, however it would be further reduced for traffic conflicts at each of the access points. This would reduce the capacity to an expected range of between 750 and 900 vehicles per hour per lane.

- ***Primary Arterials with One-Way Operation (Couplets).*** The access control requirements for the one-way couplets have not been determined. The couplets will operate more efficiently because one-way traffic results in a reduced number of conflicting movements at the intersections. Couplets are analyzed in a manner similar to the Managed Access Control and No Access Control discussions. The primary increase in capacity is achieved due to the increase in the amount of green time available for the primary movements. In addition, left turns operate similar to right turn movements in two-way operation, and traffic signal progression can be improved resulting in even more efficiency and higher capacities. The expected capacity for one-way couplets would be between 1000 and 1350 vehicles per hour per lane.

Based on the type of facility and the type of access control, lane requirements for the preliminary alternatives were developed. Fewer lanes are needed for limited access or freeway facilities due to the higher design capacity, and more lanes were needed for arterials and parkways. The expected volume based on the previous modeling would result in the need for approximately four additional (two in each direction) arterial travel lanes for a total of six arterial lanes in the north-south corridor. Four freeway lanes (two in each direction) would be required in the corridor.

OVERVIEW OF SCREENING ANALYSIS PROCESS

The screening analysis used to select alternatives for detailed assessment in the current EIS was conducted in two stages as described below.

Initial Screening Analysis

The first step of the screening process involved brainstorming conceptual alternatives within the East Wenatchee urban area. The introductory open house held March 21, 2001 provided the first opportunity to develop possible alternatives. Representatives from URS, INCA Engineers, JDL and TModel met in April and again in May of 2001 to brainstorm alternatives. A coordination meeting with WSDOT was held to discuss specifics of each alternative that had been generated to date. Input from the Stakeholders Workshop held on May 16, 2001, continued to develop potential concepts and established rating criteria that is most important to the community as well as reinforce the alternatives that had been brainstormed previously. On May 25, 2001, the group carried out an initial screening of the conceptual alternatives against the following set of screening criteria:

- *Does the concept improve level of service in the existing SR 28 corridor?*
- *Does the concept improve safety?*
- *Is the concept constructable, and can it meet engineering criteria?*
- *Would the concept likely receive required permits and approvals?*
- *Does the concept minimize displacements?*

The objective of the initial screening was to identify the most promising alternatives for further engineering consideration through a process of major flaw identification. Based on the initial screening, 16 of an original 34 conceptual alternatives were carried forward for further analysis. The initial screening process is described in detail in the **Eastside Corridor Project Final Initial Screening Analysis Report** dated **July 13, 2001**.

Second Level Screening Analysis

The second stage of the screening process involved a more focused analysis and discussion in order to develop more detailed screening criteria and determine the weight to be applied to each criterion. The screening criteria and weighting were developed by roadway design engineers, traffic engineers and environmental planners from URS, INCA Engineers and JDL at a meeting held on June 8, 2001. The development of the criteria included expanding the criteria which had been used in the initial screening. Also, additional criteria emphasized at the Stakeholders Workshop were included in the analysis. Examples of the most commonly discussed criteria at the Stakeholders Workshop include neighborhood connectivity, impacts to parks, recreational facilities, cultural resources, prime farmland, and biological resources. The people who performed the second level screening are as follows:

Draft Final Second Level Screening Analysis Report
August 3, 2001

6

*URS Corporation
And
INCA Engineers, Inc.*

Jim Catterfeld, URS Corporation
Gary Harshman, URS Corporation
Sarah Townsend, URS Corporation
Chuck Hathaway, INCA Engineers
Sandy Glover, INCA Engineers
Ken Wiley, INCA Engineers
Molly Johnson, JDL
Bob Shull, TModel

The 16 conceptual alternatives carried through from the initial screening analysis were scored against this second set of more detailed screening criteria. The section of this report titled CONCEPTUAL ALTERNATIVES CONSIDERED IN SECOND LEVEL SCREENING ANALYSIS provides a description of the 16 alternatives considered in the second level screening analysis. The sections titled SECOND LEVEL SCREENING CRITERIA AND CONCEPTUAL ALTERNATIVE SCORING and RESULTS, CONCLUSIONS, AND RECOMMENDATIONS describe the criteria selected to compare the alternatives and the ranking given to each. The objective of the second level screening analysis was to identify a number of alternatives, which would be suitable for detailed assessment and consideration in the current EIS.

CONCEPTUAL ALTERNATIVES CONSIDERED IN SECOND LEVEL SCREENING ANALYSIS

Detailed descriptions of the 16 conceptual alternatives carried through from the initial screening analysis for assessment in the second level screening analysis are provided below. The alternatives have been grouped into five like-categories.

RIVER OR WESTERN ROUTES

- *Conceptual alternative 1e, Western Route Freeway* would be located to the west of Sunset Highway and would extend from the Odabashian Bridge to the existing Sunset Highway at 9th Street. The alignment of this alternative was selected based on available aerial photographs and an extensive field survey of the area in order to minimize impacts to existing houses and businesses. It is located a minimum of 300 feet from the ordinary high water mark (OHWM) with the exception of the south end connection to existing Sunset Highway, which is within 300 feet of the OHWM. The alternative has full access control (freeway) with two lanes in each direction with a _ cloverleaf interchange at the Odabashian Bridge, diamond interchanges at 19th Street, 9th Street and 27th Street. It is anticipated that two underpasses/ overpasses along the route would provide access across the freeway. The south end of the route would be located within the 200-foot shoreline management zone for aligning with and widening the existing Sunset Highway.
- *Conceptual alternative 1f, Western Route 300' from Ordinary High Water Mark OHWM, Parkway* would be a western route from the Odabashian Bridge to 15th Street with widening of existing Sunset Highway from 15th Street to 9th Street. The alignment was selected on the basis that it falls just outside of the 300' zone of the OHWM (west of conceptual alternative 1e) and thereby complies with the provisions of the Endangered Species Act (ESA). The southern end of the route would be within the 200-foot shoreline management zone for aligning with and widening the existing Sunset Highway. This alignment would maximize the use of the existing state highway right-of-way, while remaining outside of the shoreline and ESA regulatory jurisdictional area. This alternative is proposed as a parkway, with two lanes in each direction, a raised median and managed access control (access only at key intersections).

LOWER BENCH

- *Conceptual alternative 3a, Lower Bench (Previous EIS Route 5)* starts at the SR 2/ SR 28 intersection, shares the alignment of Union Avenue west of the Airport, and meets the existing Sunset Highway north of Hurst Landing. The alternative is proposed to have managed access control (access only at key intersections) for those areas not traversing existing residential zones, with two lanes in each direction. If this alternative is considered

for further evaluation, the northern end of the alignment would be revised to take into account houses constructed along the alignment since the mid-1980s. Access for existing houses not directly impacted along the alignment may remain.

- *Conceptual alternative 3b, Lower Bench to Grant Road/ Batterman Road* would start at the SR 2/ SR 28 intersection, and would be located east of the residences at the northern end of the alignment to minimize impacts to houses. It has managed access control (access only at key intersections) for those areas not traversing existing residential zones, with two lanes in each direction. The alignment follows 5th Street, Grant Road and Batterman Road. Access to existing houses along the alignment may remain.
- *Conceptual alternative 3d, Lower Bench to Airport Way/ Batterman Road* would follow the same alignment as conceptual alternative 3b on the northern end, but on the southern end it uses Airport Way (entrance to Pangborn Airport), 4th Street and Batterman Road. It would have modified access control (access only at key intersections) for those areas not traversing existing residential zones, with two lanes in each direction. Access to existing houses along the alignment may remain.
- *Conceptual alternative 3e, Lower Bench to Eastmont Avenue/ 4th Street* would follow the same alignment as conceptual alternative 3b on the northern end, but on the southern end it uses Eastmont Avenue, crosses Grant Road and connects into existing Sunset Highway at 4th Street. It would have managed access control (access at all intersections) with two lanes in each direction. Access to existing houses along the alignment may remain.
- *Conceptual alternative 3f, Lower Bench to 8th Street/ Batterman Road* would follow the same alignment as conceptual alternative 3b on the northern and southern ends, but in the middle, from Valley View Blvd to just south of Airport Way it would pass further to the east, to provide a different alternative than utilizing existing roads in the area. It has managed access control (access at all intersections) with two lanes in each direction. Access for existing houses along the alignment may remain.
- *Conceptual alternative 3g, Lower Bench to Mary Avenue* would follow the same alignment as conceptual alternative 3f on the northern end but then would follow the alignment of Mary Avenue (along the eastern urban growth boundary) to join the existing Sunset Highway. It would have managed access control (access at all intersections) with two lanes in each direction. Access to existing houses along the alignment may remain.

It should be noted that the EIS study team recognizes drivers using the lower bench conceptual alternatives may use the existing roadway network (including Grant Road, Eastmont Avenue and Kentucky Avenue) to access Sunset Highway and the SR 285 bridge across the Columbia River to Wenatchee. Detailed traffic modeling will be performed during

the EIS process to determine the number of these trips and the subsequent effect on the level of service on current existing streets. If a lower bench alternative is analyzed in the EIS, traffic modeling will be conducted to determine the potential impacts and appropriate mitigation measures would be recommended for these streets.

ONE-WAY COUPLETS

- *Conceptual alternative 4a, One-Way Couplet – Sunset Highway/ Cascade Avenue (Previous EIS Route 3)* would be a one-way couplet (a pair of one-way streets) with existing Sunset Highway (northbound) and Cascade Avenue (southbound). Cascade Avenue would be extended at the south end to connect with existing SR 28. Sunset Highway would be widened from this connection point to 9th Street. It would have managed access control (access at all intersections) with three lanes in each direction. Access to existing houses along the alignment may remain.
- *Conceptual alternative 4b, One-Way Couplet – Cascade Avenue/ Empire Avenue/ Columbia Avenue* would be a one-way couplet with Cascade Avenue and Empire Avenue or Columbia Avenue. Empire Avenue and Columbia Avenue would require extensions north to SR 2. Cascade Avenue and Columbia Avenue or Empire Avenue would require extensions south to a connection with SR 28. It would have managed access control (access at all intersections) with three lanes in each direction. Access to existing houses along the alignment may remain.

IMPROVEMENTS TO EXISTING SUNSET HIGHWAY

- *Conceptual alternative 5d, Sunset Highway Seven Lanes* would require Sunset Highway to be widened to seven lanes, with three lanes in each direction and a center lane for left-turn channelization. It is assumed that the widening would be non-symmetrical, to minimize the impacts to residences along the existing alignment. It would have a combination of managed access control and no access control with existing access remaining for residents/businesses not fully impacted by the improvements. Current street access points (intersections) would remain.
- *Conceptual alternative 5i, Sunset Highway Four Lane Freeway* would include widening Sunset Highway to four lanes, with two lanes in each direction from SR 2 to 9th Street. It would have full access control (freeway) with three interchanges, one at either end (at the intersection of SR 28 and SR 2 and one at 9th Street) and one in the center. Two underpasses/overpasses would be located along the route to provide access across the freeway. Access along the freeway would be provided where possible through the use of the local street system or newly constructed frontage roads.

IMPROVEMENTS AND EXTENSIONS TO LOCAL STREETS

- *Conceptual alternative 6a, Columbia Avenue Extension and Widening* would require widening and extension of Columbia Avenue between the Odabashian Bridge and 13th Street, and widening of the existing Sunset Highway between 13th Street and 9th Street. Columbia Avenue would have five lanes, with two lanes in each direction, and would have left-turn channelization and managed access control (access at all intersections). Access to existing houses along the alignment may remain.
- *Conceptual alternative 6b, Empire Avenue Extension and Widening* would require widening and extension of Empire Avenue between the Odabashian Bridge and 13th Street, and widening Sunset Highway between 13th Street and 9th Street. Empire Avenue would have five lanes, with two lanes in each direction, and would have left-turn channelization and managed access control (access at all intersections). Access for existing houses along the alignment may remain.
- *Conceptual alternative 6d, Cascade Avenue Improvements and Widening* would require widening and extension of Cascade Avenue between the Odabashian Bridge and 13th Street, and widening Sunset Highway between 13th Street and 9th Street. Cascade Avenue would have five lanes, with two lanes in each direction, and would have left-turn channelization, and managed access control (access at all intersections). Access to existing houses along the alignment may remain.
- *Conceptual alternative 6e, Sunset Highway Five Lanes, Cascade Avenue Three Lanes* would require widening and extension of Cascade Avenue to three lanes between the Odabashian Bridge and 13th Street with widening of existing Sunset Highway to five lanes between the Odabashian Bridge and 9th Street. It is assumed that the widening of Sunset Highway would be non-symmetrical to minimize impacts to the residences along the existing alignment. Sunset Highway would have managed access control with existing access remaining to residences/businesses not fully impacted by the improvements. Cascade Avenue would have managed access control with potential retention of access to existing houses along the alignment.

The approximate location of each of the conceptual alternatives described above is shown on the second level-screening map.

SECOND LEVEL SCREENING CRITERIA AND CONCEPTUAL ALTERNATIVE SCORING

The screening criteria developed at the June 8, 2001, screening meeting were based on the purpose and need of the project and input from the Stakeholders Workshop. It was determined that there are four major categories that the criteria would fall under; Transportation, Community/ Land Use, Environmental and Engineering Feasibility. It was also determined that each of the four major categories was of equal importance and would receive equal weighting in the analysis.

Each of the 16 conceptual alternatives were rated according to the second level screening criteria on a scale of 1 to 10, 1 being the least favorable and 10 being the most favorable. The conceptual alternatives were rated qualitatively and ranked against all other conceptual alternatives. A description of the second level screening criteria and how each of the conceptual alternatives performed against the criterion is provided below. The attached matrix shows the score given to each conceptual alternative for each criterion.

The numbers shown below in parenthesis for each of the criteria correspond to the first column of the attached rating matrix.

(1.0) TRANSPORTATION

(1.1) Does the concept improve level of service in the existing SR 28 corridor?

This is part of the purpose and need of the project, and is a cornerstone to its success. The rating is a qualitative judgment and factors considered were proximity to trip generators, service of future growth areas that would likely use existing Sunset Highway including SR 2 around the Odabashian Bridge, Fancher Heights, and near the airport, and whether the concept would improve level of service in the year 2025.

The lower bench conceptual alternatives (3a-3g) generally scored lower because they are located a greater distance to the north and east of the traffic generators and destinations than the other alternatives. 3e had a higher score than the other lower bench alternatives because it would serve a large amount of traffic that is currently using the SR 28 corridor. The routes west of Sunset Highway are farther to the west of most of the traffic generators than the routes that would use the existing Sunset Highway. Also conceptual alternatives 1e and 6a through 6e scored better than 1f because they provide more mobility, including higher speeds and capacity. The couplets (conceptual alternatives 4a and 4b) scored well because of the ability to time the signals for through progression, resulting in increased mobility. Couplets also minimize the number of conflicting movements and in-turn increase capacity. Conceptual alternatives 5d and 5i were given very high scores because of their proximity to the traffic generators and the fact that

they could serve all traffic that is currently using the SR 28 corridor. 5i scored higher because it would be a full access control (freeway) facility.

(1.2) Does the concept improve freight mobility in area?

The rating is a qualitative judgment. Factors considered were sustained roadway grades, the amount of stopping and starting required, and truck origins and destinations (proximity to traffic generators). Information obtained on truck movements within East Wenatchee indicate that many fruit trucks use existing routes along the river (Empire, Columbia, and Cascade) to access the numerous orchards which are located on the banks of the Columbia River. Also, when trucks are loaded and headed to markets outside the Wenatchee area, SR 28 to I-90 is the preferred route over SR 2.

Conceptual alternatives 1e and 1f received high scores because they reduce the need for traffic to stop and start, and they minimize long stretches of steep roadway grade. Conceptual alternatives 3a through 3g scored lower because of the steeper roadway grades and greater distance to traffic generators. 3e and 3g scored the lowest because of the additional stopping and starting required on Eastmont Avenue. Conceptual alternatives 4a and 4b had high scores because they provide less sustained steep grades and minimize the number of start/stop movements. In addition, there is improved flow of freight movements on one-way couplets with the ability to time signal systems, however, there is more stopping and starting than on a freeway (full access control) facility. 4b scored higher than 4a because it would have slightly better sustained grades.

Conceptual alternative 5i scored better than 5d because a freeway reduces the need for trucks to stop and start. Conceptual alternatives 6a through 6e received medium to high scores because although they have some stopping requirements for a managed access facility, they have more sustained flatter roadway grades than the conceptual alternatives on the lower bench or that utilize existing Sunset Highway.

(1.3) Does the concept improve safety in the existing SR 28 corridor?

The need to improve road safety for traffic moving through East Wenatchee is an important, objective of the project. This rating is a qualitative judgment. Factors considered were the formation of snow and ice, speed, change in severity of accidents, change in number of conflicts, and proximity to schools, parks and neighborhoods.

Conceptual alternatives 1e and 5i received the highest scores on the basis that freeways have full access control and thereby reduce conflicts (vehicle/vehicle and vehicle/pedestrian). The fact that the severity of accidents on freeways is greater than on other types of roads due to higher vehicle speeds was also taken

into consideration in the scoring. Conceptual alternative 1f also received a high score because it would be designed as a parkway with reduced conflict points for cross traffic. Conceptual alternatives 3a through 3g scored lower than many of the other alternatives because of the greater likelihood of snow and ice forming on the steep roadway grades. Alternative 3e scored lower than the other lower bench alternatives because of the additional conflict points associated with schools, houses and access points on Eastmont Avenue. Conceptual alternative 4a was rated lower than 4b because of additional school bus conflicts, but overall, couplets have a reduced number of conflict points because of the one-way flow of traffic.

Conceptual alternative 5d scored lower than 5i because it would not be designed as a freeway and therefore would have a greater number of conflict points. Also, with the seven lanes on the 5d alternative, vehicles and pedestrians would have additional conflicts when crossing. Conceptual alternatives 6a through 6e score fairly well as they would reduce conflicts at driveways and intersections. Conceptual alternative 6d and 6e did not score as well as 6a and 6b given that the 6d and 6e alignments include greater lengths of existing roadways and would have more driveways and intersection conflict points.

(1.4) Does the concept improve LOS on local roadway system and accommodate alternative transportation modes?

This rating is a qualitative judgment on how the level of service on the adjacent local street network would be affected if a particular conceptual alternative was to be constructed. It should be noted however, that each of the conceptual alternatives being considered would result in some degree of improvement in the level of service on local streets. It should also be noted that provisions for alternative transportation modes such as bicycle lanes, sidewalks, and crosswalks could be incorporated into the design for a majority of conceptual alternative, however, pedestrian and bicycles would not be accommodated on freeways.

Conceptual alternatives 1e and 5i would be designed as freeways and therefore would be used mainly by those vehicles with a destination or origin near the interchanges. As a result, these alternatives would be less attractive for use by vehicles making short trips within the area as some of the other alternatives. Additionally, the freeways would not be conducive to pedestrian or bicycle travel and would require public transit to use the interchanges or other routes. Conceptual alternatives 1e and 1f are less attractive for vehicles making local trips because they are located to the west of the existing SR 28 alignment and a greater distance from traffic origins and destinations.

Conceptual alternatives 3a and 3g scored better than 3b through 3f as they are more attractive to vehicles making local trips and may be more effective at

splitting the number of trips using Eastmont Avenue and the segments of the new alignment east of Eastmont Avenue. Conceptual alternative 3e scored lower than the other lower bench routes because it may exacerbate existing lower levels of service in the Grant Road / Eastmont Avenue area.

Conceptual alternatives 4a and 4b scored well because couplets provide good access to existing streets compared to a freeway such as 1e and 5i, which makes it easy for one to travel short or long distances. Conceptual alternative 5d scored lower than 4a and 4b because it would have level of service impacts at intersections with cross streets. This alternative would require a longer signal green time to clear the intersections of cars crossing the seven-lane roadway width. Which would be expected to impede local circulation to some degree. Conceptual alternatives 6d and 6e scored better than 6a and 6b because they are located closer to the traffic generators.

(2.0) COMMUNITY/ LAND USE

(2.1) Does the concept displace businesses and/or residents?

Displacements of residences and businesses would be disruptive to the community and costly to tax payers depending on the scale. This rating is a qualitative judgment, and is scored based on the numbers of residences and businesses likely to be displaced by each conceptual alternative. It should be noted that the numbers are preliminary and were calculated by counting the number of impacted houses, businesses, vacant land and, farm land. The right-of-way impact was determined from an aerial map of the project area taken in 1998. Allowances were made for the new housing developments which have been constructed along the alignments since 1998.

Conceptual alternatives 1e and 1f scored higher than the other conceptual alternatives because 1e was specifically aligned to minimize impacts, and 1f, being partially located in existing DOT right-of-way, minimizes the impacts to existing houses. Conceptual alternative 4a also scored higher than the other conceptual alternatives because a lesser amount of widening is required along the existing alignments for one-way couplets and therefore minimizes displacements. Conceptual alternative 3e scored lower than the other lower bench conceptual alternatives because of the major impacts along Eastmont Avenue which is very developed. Conceptual alternative 3g scored higher than 3e because Mary Avenue is less developed than Eastmont Avenue, however, is more developed than Conceptual alternatives 3a, 3b, 3c, and 3f. Conceptual alternatives 3a, 3b, 3d and 3f are scored relative to the residential and business impacts along their alignments. Conceptual alternative 6e also scored lower than other conceptual alternatives because it is assumed that widening Sunset Highway to five lanes

would have significant impacts along Sunset Highway, in addition to the impacts of widening Cascade Avenue.

Conceptual alternative 4b scored lower than 4a because it has less existing roadway along its alignment resulting in higher impacts. 5d and 5i scored relatively lower than other conceptual alternatives because of the significant impacts along the existing Sunset Highway. Conceptual alternatives 6a, 6b and 6d are scored relative to impacts along their alignments.

(2.2) Does the concept minimize neighborhood connectivity impacts and access impacts to local businesses and residents?¹

Residents may be inconvenienced if access to their residences or places of business becomes circuitous due to reduced connectivity of neighborhoods and the associated closure of existing access points. Residents may have to drive farther or through more congested areas.

Freeways typically divide neighborhoods, reducing access to and from businesses and residences. For this reason, conceptual alternatives 1e and 5i were given low scores. Conceptual alternative 1f scored well because it was assumed that no residences or businesses would be located on the western side of the parkway and therefore neighborhood connectivity would not be impacted. Conceptual alternative 3e scored lower than the other lower bench routes because this conceptual alternative would attract a significant volume of additional traffic to an area which is used primarily for local circulation. In addition, the level of service at the Grant Road/ Eastmont Avenue intersection would likely be compromised.

Conceptual alternatives 4a and 4b would require some circuitous routing for vehicles travelling in the area due to the nature of one-way streets. Conceptual alternatives 5d and 6e received low scores given that seven and five lanes of Sunset Highway would be difficult for vehicles and pedestrians to cross. Conceptual alternatives 6a, 6b and 6d have low scores because vehicles and pedestrians are required to cross 5 lanes of traffic; but are higher than most other conceptual alternatives because there are fewer crossing points, more signal controls and the access points can be controlled.

(2.3) Does the concept serve economic development areas?

Providing access to economic growth areas would help relieve future congestion as development continues, and can make growth areas more attractive for future development and increase the economic viability of the region by attracting businesses. The growth areas within the urban growth boundary are near

¹ This criteria was strongly voiced at the open house held on June 28, 2001 and rating changes have been made to reflect this concern

Pangborn Airport (especially southwest and northeast), south of the Odabashian Bridge, the Baker Flats area and the existing main urban centers (Valley Mall, old downtown and Grant Road).

All of the conceptual alternatives address future development areas by improving circulation in the region. Conceptual alternative 3g received the highest score because it provides easy access to the airport and surrounding area which is likely to be developed for industrial purposes in the future. It is also closer to the existing urban center than the other lower bench routes (excluding conceptual alternative 3e). Conceptual alternative 3a received a lower score than 3g as it would not provide access to some of the existing urban areas. Conceptual alternatives 3b, 3d and 3f received slightly lower scores than the other lower bench routes because their connections to future development areas and the existing urban center are not as good. All of the lower bench routes provide access to the planned commercial area near the Odabashian Bridge. Conceptual alternatives 1e, 1f, 4a, 4b, 5d, 5i, 6a, 6b, 6d and 6e each serve the planned commercial area near the Odabashian Bridge and the existing urban center to some extent. However, they do not provide access to the airport.

(2.4) Is the concept acceptable to the community?

The following community meetings were held during the screening process:

March 21, 2001	Introductory Open House (Scoping Meeting)
May 16, 2001	Stakeholders Workshop
June 27, 2001	Citizen Advisory Committee
June 28, 2001	Alternatives Open House (Scoping Meeting)

These meetings in conjunction with public comments received via Stakeholder interviews, the Eastside Corridor website (www.eastsidecorridor.org) and other means provided community input on the conceptual alternatives, criteria and the initial and secondary screening processes. Some members of the community disagree with the lower bench routes because of neighborhood disruption, high cost, additional noise impacts and the fact that the state owns land in the vicinity of the “river route” or western route. Some members of the community disagree with the “river route” or western route because of the potential impacts to recreational facilities, particularly the Columbia River Trail. Additional concerns were voiced on widening of Sunset Highway and the use of Cascade Avenue and Empire Avenue due to residential displacement and additional safety concerns. Given the difference of opinion expressed by the community with regard to the most appropriate alternative, a medium score of 5 was given to all.

(3.0) ENVIRONMENTAL

(3.1) Does the concept minimize noise and air quality impacts?

Air and noise quality surrounding a neighborhood affect the quality of life of residents. In addition, air quality can have health impacts. Stopping and starting of vehicles increase the noise and air quality impacts. Free flow speeds generally improve air quality and noise impacts. Steep roadway grades increase noise as trucks and cars operate in lower gears and apply breaks.

Conceptual alternative 1f received the highest score as it allows vehicles to travel at the optimum speed in terms of air quality impacts, provides for minimal stopping and starting, and is a greater distance from noise receptors (residences, businesses, schools) than the other conceptual alternatives. Noise mitigation is also possible, however, this concept does not receive a higher score because it would be difficult to dissipate noise and maintain river views for the driver. Conceptual alternative 1e is closer to noise receptors than 1f, and would prove difficult to dissipate noise and maintain river views, therefore received a lower score than 1f.

Conceptual alternatives 3a through 3g all have roadway grade issues, which contribute to noise generation. Both conceptual alternatives 3a and 3e have more concentrated grades than the other lower bench route alternatives. Conceptual alternative 3e scores lower than the other lower bench route alternatives because vehicles would have to stop and start more often, it has steeper grades and it is also located near a greater number of noise receptors with little opportunity for noise mitigation because of the presence of numerous driveways. Conceptual alternative 3g is located closer to noise receptors than alternatives 3a, 3b, 3d and 3f.

Conceptual alternatives 4a, 4b and 6a through 6e are all located close to noise receptors, but with the ability to time the traffic signals on a one-way couplet, the stopping and starting would be less on 4a and 4b than on 6a through 6e.

Conceptual alternative 5i was given a low score because of its proximity to noise receptors, even though the freeway would allow for noise mitigation measures due to the reduced access points. Conceptual alternative 5i received a lower score than 5d because increased speeds associated with a freeway associated with a freeway would increase the noise levels.

(3.2) Does the concept provide opportunities to improve water quality?

This is a qualitative judgment based in part on the proximity of the conceptual alternative to the Columbia River. The closer the conceptual alternative to the Columbia River, the higher the potential for impacts to wetlands with less opportunity to control or eliminate downstream impacts to critical habitat. The

proximity of the conceptual alternatives to the wellhead protection areas identified in the Douglas County Wellhead Protection Program, December 1998 was also taken into consideration. Two wellhead protection areas are located along the Columbia River; one is located in the vicinity of 19th Street and the other in the area surrounding Kentucky Avenue.

Conceptual alternatives 1f, 4b, 6a and 6b were given the lowest score on the basis that they are located closer to the Columbia River than all other conceptual alternatives and they also pass through the wellhead protection area located in the vicinity of 19th Street. Conceptual alternatives 1e, 4a, 5d, 5i, 6d and 6e are located further away from the river than these alternatives so were given a better score. Alternatives 1e, 4a, 6d and 6e were given lower scores than 5d and 5i as they pass through the wellhead protection area at 19th Street. The lower bench routes were given the highest scores as they are located further away from the river than the other routes. However, conceptual alternative 3e and 3g were given lower scores than the other lower bench routes given that 3e is located closer to the river than the other lower bench routes and 3g passes through the Kentucky Avenue wellhead protection area. None of the conceptual alternatives were given a very low score based on the assumption that appropriate water quality control measures would be incorporated into the design of the road.

(3.3) Does the concept minimize impacts to parks, schools, recreation areas, cultural resources and farmland?

Factors considered include the proximity to existing parks, schools, recreation areas (the trail), cultural resources and farmland. Conceptual alternatives that would impact a smaller area of open land and other recreation areas than others generally scored the highest. It is important to note that the cultural resources considered in this analysis were those listed in the WSDOT EIS and the parks, schools, and recreation areas considered were those either identified during the initial site visit or listed in the Douglas County Capital Facilities Plan prepared in October 1995.

Those conceptual alternatives that require existing facilities such as Sunset Highway and Cascade Avenue to be widened including 5d and 5i, and to a lesser extent 4a, 6d and 6e, scored the highest since very little open land recreation areas would be affected and the likelihood that undisturbed cultural resources are present is minimal given the urban nature of the land along the alignments. These alternatives would not impact recreation areas, parks and schools. Conceptual alternative 1f received a fairly high score because even though it is closer to the river and the Columbia River Trail, there may be an opportunity to provide additional parkland areas and improved access to existing areas. Concerns raised by the community in relation to the impact of the alternative 1f on the recreational value of the trail were taken into consideration in the scoring. Conceptual

alternative 1e did not score as well as 1f as it would disturb existing orchards. Neither alternative 1e or 1f would disturb known cultural sites located along the Columbia River. The lower bench conceptual alternatives, 3b through 3f, scored lower because these alternatives impact a larger quantity of open land. Conceptual alternatives 3a and 3g would impact less open land than the other lower bench alternatives and were given higher scores accordingly. None of the lower bench alternatives would disturb cultural sites, recreational areas and parks. The location of 3e and 3g in the vicinity of schools was also taken into account. Conceptual alternative 4b did not score as well as 4a as the northern portion of the route passes through orchards. Conceptual alternative 6b scores higher than 6a because Empire Avenue passes through an area more built up than Columbia Avenue, and therefore, a smaller area of open land would be disturbed. Alternatives 4a, 4b, 6a or 6b would not disturb recreational areas, cultural sites or schools.

(3.4) Does the concept minimize impacts to biological resources (Columbia River, wetlands, wildlife or vegetation)?²

Preliminary field investigations have revealed that there are several wetlands located near the Columbia River. Therefore those conceptual alternatives that are located closest to the river were given the lowest scores. Conceptual alternatives that impact open land were also given a low score because of the likelihood that construction would result in the clearance of native vegetation.

Conceptual alternative 1f scored the lowest because of its proximity to the river and the likelihood that the construction works would require the clearance of some areas of native vegetation. The next lowest scores were given to alternative 1e based on its proximity to the river and the amount of open land likely to be disturbed, and 3f on the basis that it passes through a significant area of open land. The other bench route alternatives would disturb less open land, particularly alternative 3e, which follows the alignment of Eastmont Avenue. Conceptual alternatives 4a, 5d, 5i, 6d and 6e were given high scores because these routes follow existing roads for part of their length and pass through areas that are more built up than all the other areas affected by the conceptual alternatives. Conceptual alternatives 4b, 6a and 6b pass through less built up areas and follow fewer existing roads.

² A representative from the Washington State Department of Fish and Wildlife who attended the Open House on June 28, 2001 provided a comment to reduce the rating for conceptual alternative 1e from a 5 to a 4 for this criterion.

(3.5) Is the concept likely to receive permits/ environmental approvals?

If a conceptual alternative is not likely to receive the required permits or NEPA/SEPA approval, it can not be constructed. Included in NEPA/SEPA approval is consideration of the federal requirement that any irreversible and irretrievable commitments of resources be addressed. An irreversible commitment could include removal of habitat requirements while an irretrievable commitment might include the energy used in construction. This rating is a qualitative judgment, where an average permitting effort scores a 5. For the purposes of this analysis, it was assumed that permitting would be easier for those alternatives which have the least impact on residences and businesses, and are located further away from the Columbia River.

Conceptual alternative 1f received the lowest score because of its proximity to the Columbia River and the concerns expressed by the National Marine Fisheries Service (NMFS) about downstream impacts associated with the construction of a road close to the river. Conceptual alternatives 1e, 3a through 3g, and 6a through 6e received a higher score reflective of an average permitting effort. Conceptual alternatives 4a and 4b received higher scores because they are set back from the river and would impact fewer residences and businesses than some of the other alternatives. Conceptual alternatives 5d and 5i also received higher scores because even though there would be a moderate impact on businesses and residences, the area is already developed and is set back from the Columbia River.

(4.0) ENGINEERING FEASIBILITY

Engineering feasibility generally involves the physical aspects of the project that must be built for each of the alternatives considered. Facilities that have been identified below are the major components that would likely be required including earthwork, structures, utilities, storm drain systems, and pavement. The following criteria were evaluated with respect to the magnitude of initial construction, maintenance requirements, how the facility would appear, and the overall impact to undisturbed areas due to each alternative.³

(4.1) Would the concept minimize future maintenance?

Conceptual alternatives that require heavy maintenance for asphalt pavement, drainage systems, retaining walls, guardrail and fencing puts a strain on agency resources.

The lower bench conceptual alternatives generally received the lowest scores because the large earth cuts and fills would require greater guardrail, slope and

³ Cost has continually been identified by the public at the open houses, workshop, and through comments. Cost is shown on the attached rating matrix for comparison purposes only, but is not considered in the overall rating of alternatives.

retaining wall maintenance. In addition, the lower bench alternatives would be subject to more snow removal than other conceptual alternatives, resulting in increased asphalt pavement repairs and more application of snow inhibitors in winter. Conceptual alternatives 3b, 3d and 3f received the lowest scores because of their long lengths, which would require more asphalt, drainage and fencing repair. Conceptual alternatives 3a, 3e and 3g were also rated on the basis of length.

Conceptual alternative 5d received the highest score because of its short distance, and because it follows an existing road which already requires maintenance. 5i received the second highest score because of its short distance, however it scored lower than 5d because the additional freeway ramps, bridges, frontage roads and fences would require additional maintenance. Conceptual alternatives 1f, 4a, 4b, 6a, 6b, 6d, and 6e received the same scores because of their similar total length and length of new alignment. Conceptual alternative 1e scored slightly lower because of the freeway ramps, fences and bridges, but lower than 5i because it is a new alignment.

(4.2) Does the concept minimize utility impacts?

Conceptual alternatives with existing high development along their routes would have more existing utility conflicts than alternatives that pass through areas of open land. In addition, conceptual alternatives with a longer length also have a higher potential for impacting existing utilities.

Conceptual alternative 3e scored the lowest because of the large amount of existing development along Eastmont Avenue. Conceptual alternatives 5d and 5i scored the second lowest because of the large amount of development with 5i scoring lowest because freeway ramps and frontage roads would increase the utility impacts. Conceptual alternative 3g received the second lowest score because of its longer length even though it has less development along its alignment than 3e, but more than 3a, 3b, 3d and 3f. Conceptual alternatives 3a, 3b, 3d and 3f received medium scores because of their long lengths. 1e scored lower than 1f because it is closer to developed areas and includes freeway ramps. 4a scored lower than 4b because existing Sunset Highway has more existing development and utilities. Conceptual alternative 6e scored slightly lower than 6a, 6b and 6d because of the use of existing Sunset Highway as the 5-lane widening which as mentioned above, has more existing development and utilities.

(4.3) Does the concept require high aesthetic treatment?

High aesthetic treatment includes the construction of attractive retaining walls, bridge enhancements, and landscaped slopes, due to alternatives that would be highly visible from the surrounding area. Conceptual alternatives that are higher in elevation and are visible from the surrounding area, including from the west

side of the Columbia River, would require greater aesthetic treatment. In addition, conceptual alternatives that utilize existing roads would not require as much aesthetic treatment as a new road.

Conceptual alternatives 3a, 3b, 3d and 3f scored the lowest because of their higher elevation, longer length and retaining wall and cut and fill slope potential.

Conceptual alternative 3g scored lower than 3e because of its longer length and higher elevation at the southern end. In addition, conceptual alternative 3e uses Eastmont Avenue, a road that is already highly developed. Conceptual alternative 1e scored lower than 1f because of its longer length, higher elevation, freeway ramps and bridges.

Conceptual alternative 4b scored lower than 4a because the couplet combination of Cascade Avenue and Empire Avenue/ Columbia Avenue have less existing development than the Sunset Highway and Cascade Avenue couplet combination. Conceptual alternative 5i scored lower than 5d because of the freeway ramps and bridges. Conceptual alternative 6a scored lower than 6b, 6d and 6e because it has less existing development.

(4.4) Does the concept minimize earth grading and related impacts?

Conceptual alternatives that have large amounts of earth grading and related impacts have, increased constructability issues, increase the amount of disturbed area, have the potential to more readily erode, and can leave the perception of scarred terrain.

Conceptual alternatives 3a, 3b, 3d, 3e, 3f and 3g scored lower than all other alternatives because they would require large cuts of up to 200 feet at their northern end. 3d and 3f received the lowest scores because of their long lengths and need for filling areas to the northwest of Pangborn Airport. 3e scored higher because of its shorter length and its use of the existing grade along Eastmont Avenue. Conceptual alternative 1e scored lower than 1f because the freeway would require ramps, bridges and other interchange grade construction.

Conceptual alternative 4b scored lower than 4a because 4a maintains the existing Sunset Highway alignment which would minimize grading requirements.

Conceptual alternative 5i scored lower than 5d because of frontage road, ramp, bridge, and other intersection grade construction. Conceptual alternative 6e scored lower than 6a, 6b and 6c because it requires grading for the widening of two streets - Sunset Highway and Cascade Avenue.

(4.5) Does the concept minimize profile grades?

Conceptual alternatives that have steep profile grades are more difficult to pave and grade, have additional drainage issues, and may have difficult intersection connections.

Conceptual alternatives 3a, 3b, 3d, 3e, 3f and 3g scored lower than all other alternatives because of the 7% profile grade required at the northern end of their alignments. 3e received a slightly higher score because of its shorter length and use of existing Eastmont Avenue grade. Conceptual alternative 1e scored higher than 1f because 1e is a freeway, and its grade can be more controlled because there are no intersection connections. In addition, conceptual alternative 1e would require steeper grades to match into existing Sunset Highway on the southern end.

Conceptual alternative 4a scored higher than 4b because it uses the existing grade of Sunset Highway, and the profile grade of Cascade Avenue on the southern end is less steep to match into existing Sunset Highway than for Empire Avenue or Columbia Avenue. Conceptual alternatives 5d and 5i generally scored higher because they use the existing Sunset Highway alignment and grade, with 5i scoring higher because the freeway profile would be easier to control due to no intersection connections. Conceptual alternatives 6d and 6e scored higher than 6a and 6b because they use the existing alignment and grades of Sunset Highway and Cascade Avenue, and the profile grade is less steep at the southern in to match into existing Sunset Highway.

(4.6) Does the concept minimize added impervious area and related drainage requirements?

Conceptual alternatives that add more impervious area have increased potential drainage issues such as water quality, water detention, and conveyance which increase the need for more engineered treatments such as detention vaults and wet ponds.

Conceptual alternatives 3a, 3b, 3d, 3e, 3f and 3g generally scored lower than all other alternatives because of their longer lengths, with 3e and 3g scoring higher because of their relatively shorter lengths. Conceptual alternative 4a scored higher than 4b because it uses existing Sunset Highway as one of the couplets. Conceptual alternative 5i scored lower than 5d because of additional impervious surfaces with ramps and frontage roads. Conceptual alternative 6d and 6e scored higher than 6a and 6b because they use existing Sunset Highway and Cascade Avenue which already have existing pavement, where 6a and 6b would require more new pavement surfaces.

RESULTS, CONCLUSIONS AND RECOMMENDATIONS

DRAFT SECOND LEVEL SCREENING

An average subtotal score was developed for each of the conceptual alternatives within the four major categories (transportation, community/land use, environmental, and engineering feasibility). A total score (out of 40 possible points) was then generated by adding up the average score for each major category (all four major categories have been given equal weighting) for each conceptual alternative. The conceptual alternatives were then ranked, with a ranking of one being given to the alternative with the highest total score and a ranking of 16 being given to the alternative with the lowest total score.

The highest ranked alternative in each grouping was then presented to the Citizens Advisory Committee held June 27, 2001 and at the community Open House, held on June 28, 2001. They were also presented at an IDT meeting held on June 20, 2001. The highest ranked alternatives from each group are listed below:

- 1f Western Route 300' from OHWM, Parkway.
- 3a Lower Bench (Previous EIS Route 5).
- 4a One-Way Couplet – Sunset Highway/ Cascade Avenue (Previous EIS Route 3).
- 5i Sunset Highway Four Lane Freeway.
- 6d Cascade Avenue Improvements and Widening.

A summary of the results of the draft screening exercise is presented in Table 1. These results reflect the scoring and ranking prior to the incorporation of comments received from the Citizens Advisory Committee and the comments received at the Open House.

Table 1
DRAFT TOTAL SCORE AND RANKING

Conceptual Alternative No.	Conceptual Alternative Description	Total Score	Ranking
1e	Western Route Freeway	24.63	6
1f	Western Route 300' from OHWM, Parkway	26.91	2
3a	Lower Bench (Previous EIS Route 5)	20.28	11
3b	Lower Bench to Grant Road /Batterman Road	19.61	13
3d	Lower Bench to Airport Way/ Batterman Road	19.2	14
3e	Lower Bench to Eastmont Avenue /4 th Street	18.78	15
3f	Lower Bench to 8 th Street/ Batterman Road	18.59	16
3g	Lower Bench to Nevada note – or Mary Ave see section 4.2 of report	19.74	12
4a	One-Way Couplet – Sunset Highway/ Cascade Avenue	27.30	1
4b	One-Way Couplet – Cascade Avenue/ Empire Avenue/ Columbia Avenue	25.18	4
5d	Sunset Highway Seven Lanes	24.17	7
5i	Sunset Highway Four Lane Freeway	25.40	3
6a	Columbia Avenue Extension and Widening	23.36	9
6b	Empire Avenue Extension and Widening	23.6	8
6d	Cascade Avenue Improvements and Widening	24.74	5
6e	Sunset Highway five Lanes, Cascade Avenue three Lanes	23.06	10

FINAL SECOND LEVEL SCREENING

After evaluating comments from the interdisciplinary team meeting, citizens advisory committee meeting, and the open house, the rating was modified. The intent was to incorporate comments that impacted how the project team had originally rated the alternatives with respect to the criteria.

The modified rating increased the difference between the lowest rated set of alternatives (Lower Bench) and the other categories of alternatives. The lower bench alternative also predominantly received public opposition with no support; where as the other alternatives received divided opposition and support. Because of the overall lower scoring of the lower bench alternatives and the predominant opposition by the public to the lower bench alternative the project team recommends that these alternatives not be considered for further evaluation in the EIS.

Table 2 summarizes the scoring of each alternative and the ranking. The recommended alternatives to be carried into the EIS for further evaluation are shown shaded. The attached matrix provides a detailed analysis of the scoring.

Table 2
FINAL DRAFT TOTAL SCORE AND RANKING

Conceptual Alternative No.	Conceptual Alternative Description	Total Score	Ranking
1e	Western Route Freeway	24.0	7
1f	Western Route 300' from OHWM, Parkway	26.9	2
3a	Lower Bench (Previous EIS Route 5)	19.5	11
3b	Lower Bench to Grant Road /Batterman Road	18.8	13
3d	Lower Bench to Airport Way/ Batterman Road	18.4	14
3e	Lower Bench to Eastmont Avenue /4 th Street	18.3	15
3f	Lower Bench to 8 th Street/ Batterman Road	18.0	16
3g	Lower Bench to Nevada note – or Mary Ave see section 4.2 of report	18.9	12
4a	One-Way Couplet – Sunset Highway/ Cascade Avenue	26.4	1
4b	One-Way Couplet – Cascade Avenue/ Empire Avenue/ Columbia Avenue	24.5	4
5d	Sunset Highway Seven Lanes	24.3	5
5i	Sunset Highway Four Lane Freeway	25.6	3
6a	Columbia Avenue Extension and Widening	22.6	10
6b	Empire Avenue Extension and Widening	22.9	8
6d	Cascade Avenue Improvements and Widening	24.2	6
6e	Sunset Highway five Lanes, Cascade Avenue three Lanes	22.8	9

WSDOT EASTSIDE CORRIDOR PROJECT
Second Level Screening Analysis

			River Front*		Lower Bench						Couplets*		SR 28*		Existing Streets*			
	Workshop Derived Criteria	Criteria * All of these concepts will result in permissible roadway construction within 200’ of the Columbia River at the south end (at 9 th NE) only, to tie into existing SR 28.	Western Route Frwy. Closer to Existing Sunset	Western Route 300’ from OHWM, Parkway	Lower Bench (Previous EIS Route 5)	Lower Bench to Grant/ Batterman	Lower Bench to Airport/Batterman	Lower Bench to Eastmont/4th	Lower Bench to 8 th /Batterman	Lower Bench to Mary	One-Way Couplet Sunset/Cascade (Previous EIS Route 3)	One-Way Couplet Cascade/Empire or Columbia	Sunset 7 Lanes	Sunset 4 Lane Freeway	Columbia Extension & Widening - 5 Lane	Empire Extension & Widening - 5 Lane	Cascade Improvements & Widening - 5 Lane	Sunset 5 Lanes, Cascade 3 Lanes
			1e	1f	3a	3b	3d	3e	3f	3g	4a	4b	5d	5i	6a	6b	6d	6e
		Workshop Identified Conceptual Alternatives (the number of groups that identified the alternative)	1	1	2	2	1	0	1	2	4	3	4	0	1	2	1	1
1.0		Transportation																
1.1	5	Does the concept improve LOS in the existing SR 28 corridor?	8	7	6	5	4	8	5	7	8	8	9	10	8	8	8	8
1.2	5	Does the concept improve freight mobility in the area?	10	9	4	5	5	3	5	3	7	8	6	9	6	6	6	6
1.3	5	Does the concept improve safety in the existing SR 28 corridor?	9	9	6	5	5	4	5	5	6	8	5	9	7	7	6	6
1.4	5	Does the concept improve LOS on local roadway system and accommodate alternative modes?	5	6	7	6	6	6	6	7	7	7	6	6	5	5	6	6
		1.0 Average Subtotal Score	8.0	7.8	5.8	5.3	5.0	5.3	5.3	5.5	7.0	7.8	6.5	8.5	6.5	6.5	6.5	6.5
2.0		Community/ Land Use																
2.1	1	Does the concept displace businesses and/or residents?	8	8	6	7	7	2	5	3	8	6	4	4	7	6	5	2
2.2	5	Does the concept minimize neighborhood connectivity impacts and access impacts to local businesses and residents?	3	7	4	4	4	3	4	4	4	4	4	2	4	4	4	3
2.3	1	Does the concept serve economic development areas?	7	7	7	6	6	6	6	8	7	7	6	7	7	7	7	7
2.4		Is the concept acceptable to the community?	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
		2.0 Average Subtotal Score	5.8	6.8	5.5	5.5	5.5	4.0	5.0	5.0	6.0	5.5	4.8	4.5	5.8	5.5	5.3	4.3
3.0		Environmental																
3.1	3	Does the concept minimize noise and air quality impacts?	5	7	4	5	5	3	5	4	4	4	4	6	3	3	3	3
3.2	2	Does the concept provide opportunities to improve water quality?	4	3	7	7	7	6	7	6	4	3	5	5	3	3	4	4
3.3	5	Does the concept minimize impacts to parks, schools, recreation areas, cultural resources and farmland?	4	6	5	4	4	4	4	5	7	4	8	8	4	6	7	7
3.4	5	Does the concept minimize impacts to biological resources (Columbia River, wetlands, wildlife or vegetation)?	4	3	5	5	5	7	4	6	7	5	7	7	5	5	7	7
3.5	2	Is the concept likely to receive permits/ environmental approvals?	5	4	5	5	5	5	5	5	6	6	6	6	5	5	5	5
		3.0 Average Subtotal Score	4.4	4.6	5.2	5.2	5.2	5.0	5.0	5.2	5.6	4.4	6.0	6.4	4.0	4.4	5.2	5.2
4.0		Engineering Feasibility																
4.1	0	Would the concept minimize future maintenance?	7	8	3	2	2	6	2	4	8	8	10	9	8	8	8	8
4.2	0	Does the concept minimize utility impacts?	7	9	6	6	6	2	6	4	6	7	4	3	6	6	6	5
4.3	1	Does the concept require high aesthetic treatment?	3	5	2	2	2	4	2	3	8	7	6	4	5	6	6	6
4.4	0	Does the concept minimize earth grading and related impacts?	6	8	2	2	1	4	1	2	8	7	6	5	7	7	7	6
4.5	0	Does the concept minimize profile grades?	7	6	3	3	3	4	3	3	8	6	8	9	6	6	8	8
4.6	0	Does the concept minimize added impervious area and related drainage requirements?	5	5	2	2	2	4	2	3	9	6	8	7	6	6	8	8
		4.0 Average Subtotal Score	5.8	6.8	3.0	2.8	2.7	4.0	2.7	3.2	7.8	6.8	7.0	6.2	6.3	6.5	7.2	6.8
		TOTAL SCORE (summation of the four Average Subtotals)	24.0	26.0	19.5	18.8	18.4	18.3	18.0	18.9	26.4	24.5	24.3	25.6	22.6	22.9	24.2	22.8
		RANKING	(7)	(2)	(11)	(13)	(14)	(15)	(16)	(12)	(1)	(4)	(5)	(3)	(10)	(8)	(6)	(9)
		*Conceptual Cost (in Millions \$)	92.7	68.5	108.5	112.9	180.5	85.5	185.8	116.0	36.2	72.5	59.9	120.5	68.7	71.7	33.3	64.0

*Not included in the rating.